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Burrowing Owls

It takes a village

Citizen Scientists working with Parks Canada to protect species at risk

In **Gwai Haanas National Park Reserve** on Canada's West Coast, one volunteer has single-handedly conducted extensive habitat mapping for endangered species. In **Grasslands National Park** in Saskatchewan, a small group of volunteers is actively monitoring Burrowing Owl and Mormon metalmark populations. In Nova Scotia's **Kejimikujik National Park**, over a hundred volunteers have become passionate caretakers of Blanding's turtles.

What do all of these Canadians have in common? A love of nature, a can-do attitude, and increasingly, the knowledge that they represent a new breed of citizen scientists that is making a powerful and concrete difference to species at risk across the country.



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Checking turtle's nest at Kejimikujik

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Volunteer supporting Night Birds returning, Gwaii Haanas project

Lending a hand in Canada's national parks

Recovering species at risk – whether they live in grasslands, forests, rivers or the ocean – is hard and often painstaking work. It can mean hours spent searching for signs of a particular species or their habitat under a scorching sun, pulling invasive weeds on your hands and knees, or participating in seasonal surveys such as Christmas bird counts.

In addition to its expert staff, Parks Canada's species conservation and management program are immeasurably enriched by the participation of ordinary Canadians. Some of these volunteers are long-time professionals wanting to contribute their expertise; others bring their raw passion, energy -- and often their muscles! – to recovery efforts.

Whatever their particular gifts or interests, volunteer citizen scientists have become indispensable to Parks Canada. The future for many species at risk is brighter because of their time and efforts.





Some of the volunteers at Kejimikujik

What is citizen science?

Citizen science refers to research or monitoring efforts that are supported by active volunteers. These volunteers work with Parks Canada to collect, record, analyze or report data that helps support the management and conservation of either natural resources (such as species at risk) or cultural (often archeological) resources in our national parks and historic sites.

Volunteers don't need to come from a scientific background, as there are lots of activities they can perform with the help of park researchers and scientists. For example, students from Leamington, Ontario have worked closely with staff from Point Pelee National Park to collect and propagate seeds from native plants to support the park's savannah restoration project.

In other instances, Parks Canada is approached by people with significant scientific expertise, who offer to apply their unique skills and interests to the needs of species at risk across the country. This can include retired biologists or international visitors with a particular expertise. For example, members of the Bow Valley Naturalists club have provided invaluable information on amphibians and reptiles in the mountain parks, thanks to their tireless observations and keen interest in these often misunderstood species.



Student volunteers restoring a rare ecosystem

A growing force from coast to coast

The number of Canadians eager to roll up their sleeves for nature continues to grow. Last year alone, over 7500 volunteers gave nearly 120,000 hours of their time to support Parks Canada programs. A significant number of these volunteers – almost 950 strong – contributed directly to research and monitoring activities.

This citizen science is in force across the entire country. Leading the pack is the Atlantic region, where more than 400 volunteers spent almost 12,000 hours on a diverse range of activities. From a mushroom foray in Newfoundland's Terra Nova National Park, to a Moose Count in Fundy National



Blanding's turtle

Park; counting Piping Plovers in Prince Edward Island National Park to LoonWatch in Kejimikujik National Park, these activities both strengthen recovery efforts and build stronger connections between parks, people, and local communities.

These partnerships extend to all parts of the national park system. Projects in the mountain parks in the west boast everything from subalpine plant monitoring to DNA collection of bear hair. Waterton Lake National Park even has two scientists emeritus, who together donated almost 600 hours of their time last year alone. Citizen scientists are also active in the western Arctic's Ivvavik National Park, where a handful of volunteers is strongly supporting both ecological integrity monitoring and archaeological projects.



Eastern Prairie Fringed-orchid

In Ontario's Bruce Peninsula National Park, two local citizens, accompanied by PCA staff, travel on foot and by canoe to locate and count Eastern Prairie Fringed-orchids, a beautiful flower listed as endangered under Canada's Species at Risk Act. In the Mingan Archipelago National Park Reserve in Quebec, researchers and citizen scientists from several countries help count and tag the Red Knot *rufa* on its long migration between the Arctic and Argentina.

Many hands make light work

While they relate to different species and ecosystems across the country, these stories of people power at work in our national parks



Removing invasive species at Waterton Lakes

have much in common. They highlight the love that Canadians have for nature, and their desire to help protect our forests, oceans, rivers and prairies. They also demonstrate the vital role communities and individuals can play in supporting government efforts to recover species at risk.

While much remains to be done, one thing is crystal clear – citizen scientists and volunteers can make all the difference in the world.

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